Title (en)

X-ray and gamma-ray radiation detector

Title (de)

Röntgen- und Gammastrahlendetektor

Title (fr)

Détecteur de rayonnement gamma et de rayons X

Publication

EP 2876465 A1 20150527 (EN)

Application

EP 13194445 A 20131126

Priority

EP 13194445 A 20131126

Abstract (en)

Disclosed is a semiconductor radiation detector for detecting X-ray and gamma-ray radiation. The detector comprises a converter element for converting incident X-ray and gamma-ray photons into electron-hole pairs, at least one cathode, a plurality of detector electrodes arranged with a pitch (P) along a first axis, a plurality of drift electrodes, a readout circuitry being configured to read out signals from the plurality of detector electrodes; and a processing unit connected to the readout circuitry and being configured to detect an event in the converter element. The readout circuitry is further configured to read out signals from the plurality of drift electrodes, and the processing unit is further configured to estimate a location of the event along the first axis by processing signals obtained from both the detector electrodes and the drift electrodes, the location of the event along said first axis is estimated with a precision being greater than the pitch (P).

IPC 8 full level

G01T 1/24 (2006.01)

CPC (source: EP US)

G01T 1/161 (2013.01 - US); **G01T 1/241** (2013.01 - EP US); **G01T 1/247** (2013.01 - US); **H01Q 1/288** (2013.01 - US)

Citation (search report)

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EP3232230A1; EP3232229A1; CN106249270A; EP3290956A1; CN117969604A; US11287539B2; US10295679B2; WO2017178693A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2876465 A1 20150527; EP 3074792 A1 20161005; EP 3074792 B1 20171011; US 2017168168 A1 20170615; US 9921315 B2 20180320; WO 2015078902 A1 20150604

DOCDB simple family (application)

EP 13194445 A 20131126; EP 14802681 A 20141126; EP 2014075643 W 20141126; US 201415039448 A 20141126